RAW SEQUENCE LISTING
PATENT APPLICATION: **US/09/619,032A**

DATE: 04/02/2003
TIME: 12:07:44

Input Set : **A:\09010-004005.txt**
Output Set: **N:\CRF4\04022003\I619032A.raw**

```
 4 <110> APPLICANT: Murphy, Dennis
 5         Reid, John
 7 <120> TITLE OF INVENTION: ALPHA GALACTOSIDASES AND METHODS FOR
 8         MAKING AND USING THEM (Amended)
10 <130> FILE REFERENCE: 09010-004005
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C--> 12 **<140> CURRENT APPLICATION NUMBER: US/09/619,032A**
C--> 13 **<141> CURRENT FILING DATE: 2003-03-25**

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15 <150> PRIOR APPLICATION NUMBER: US 09/407,806
16 <151> PRIOR FILING DATE: 1999-09-28
18 <150> PRIOR APPLICATION NUMBER: US 08/613,220
19 <151> PRIOR FILING DATE: 1996-03-08
21 <160> NUMBER OF SEQ ID NOS: 4
23 <170> SOFTWARE: FastSEQ for Windows Version 4.0
25 <210> SEQ ID NO: 1
26 <211> LENGTH: 52
27 <212> TYPE: DNA
28 <213> ORGANISM: Artificial Sequence
30 <220> FEATURE:
31 <223> OTHER INFORMATION: synthetically generated oligonucleotide
33 <400> SEQUENCE: 1
34 ccgagaattc attaaagagg agaaattaac tatgagagcg ctcgtctttc ac          52
36 <210> SEQ ID NO: 2
37 <211> LENGTH: 31
38 <212> TYPE: DNA
39 <213> ORGANISM: Artificial Sequence
41 <220> FEATURE:
42 <223> OTHER INFORMATION: synthetically generated oligonucleotide
44 <400> SEQUENCE: 2                                                   31
45 cggaagatct aggttcccca ttttcacccc t
47 <210> SEQ ID NO: 3
48 <211> LENGTH: 1095
49 <212> TYPE: DNA
50 <213> ORGANISM: Thermococcus alcaliphilus
52 <400> SEQUENCE: 3
53 ttgagagcgc tcgtctttca cggcaacctc cagtatgccg aaatcccaaa gagcgaaatc   60
54 ccaaaggtca tagagaaggc atacatccca gtcatcgaga cactgattaa agaagaaatt  120
55 ccttttgggc tcaacataac gggctatacc ttaaagttcc tcccgaagga tattatagac  180
56 ctcgttaaag ggggcatcgc gagtgacctg atagagataa tcggaacgag ctacacgcac  240
57 gcaatactcc ccctcctgcc gcttagcaga gtagaagcac aagttcagag agatagggaa  300
58 gttaaggaag agctcttcga ggtttctcca aagggattct ggctgccaga gctcgcctat  360
59 gacccgataa tccctgccat actgaaggac aacggttatg agtatctatt cgccgacggg  420
60 gaggcgatgc ttttctcagc tcatctcaac tcggcgataa agccaattaa accgctctat  480
61 ccacacctta taaaggccca aagggaaaag cgctttaggt acatcagcta tctccttggt  540
```

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```
62 ctcagggagc ttaggaaggc gataaagctc gtttttgaag gtaaggtaac gctaaaggca    600
63 gtcaaagaca tcgaagccgt acccgtttgg gtggccgtga acacggctgt aatgctcggc    660
64 atcggaaggc ttcctcttat gaatcctaag aaagtggcga gctggataga ggacaaggac    720
65 aacattcttc tatacggcac cgatatagag ttcattggct atagggacat tgcaggctac    780
66 agaatgagtg ttgagggatt attagaggtt atagacgagc tcaactcgga actgtgcctt    840
67 ccctcagagc tgaagcacag tggaagggag ctctacttac ggacttcgag ttgggcacca    900
68 gataagagct tgaggatatg gagagaggac gaagggaacg caagacttaa tatgctgtcc    960
69 tacaatatga ggggcgaact cgccttttta gccgagaaca gcgatgcaag gggatgggag   1020
70 cccctccctg agaggaggct ggatgccttc cgggcgatat ataacgattg gagggggtgaa   1080
71 aatggggaac cttag                                                     1095
73 <210> SEQ ID NO: 4
74 <211> LENGTH: 364
75 <212> TYPE: PRT
76 <213> ORGANISM: Thermococcus alcaliphilus
78 <400> SEQUENCE: 4
79 Leu Arg Ala Leu Val Phe His Gly Asn Leu Gln Tyr Ala Glu Ile Pro
80   1               5                  10                  15
81 Lys Ser Glu Ile Pro Lys Val Ile Glu Lys Ala Tyr Ile Pro Val Ile
82              20                  25                  30
83 Glu Thr Leu Ile Lys Glu Glu Ile Pro Phe Gly Leu Asn Ile Thr Gly
84          35                  40                  45
85 Tyr Thr Leu Lys Phe Leu Pro Lys Asp Ile Ile Asp Leu Val Lys Gly
86      50                  55                  60
87 Gly Ile Ala Ser Asp Leu Ile Glu Ile Ile Gly Thr Ser Tyr Thr His
88 65                  70                  75                  80
89 Ala Ile Leu Pro Leu Leu Pro Leu Ser Arg Val Glu Ala Gln Val Gln
90                  85                  90                  95
91 Arg Asp Arg Glu Val Lys Glu Glu Leu Phe Glu Val Ser Pro Lys Gly
92                 100                 105                 110
93 Phe Trp Leu Pro Glu Leu Ala Tyr Asp Pro Ile Ile Pro Ala Ile Leu
94             115                 120                 125
95 Lys Asp Asn Gly Tyr Glu Tyr Leu Phe Ala Asp Gly Glu Ala Met Leu
96         130                 135                 140
97 Phe Ser Ala His Leu Asn Ser Ala Ile Lys Pro Ile Lys Pro Leu Tyr
98 145                 150                 155                 160
99 Pro His Leu Ile Lys Ala Gln Arg Glu Lys Arg Phe Arg Tyr Ile Ser
100                 165                 170                 175
101 Tyr Leu Leu Gly Leu Arg Glu Leu Arg Lys Ala Ile Lys Leu Val Phe
102             180                 185                 190
103 Glu Gly Lys Val Thr Leu Lys Ala Val Lys Asp Ile Glu Ala Val Pro
104         195                 200                 205
105 Val Trp Val Ala Val Asn Thr Ala Val Met Leu Gly Ile Gly Arg Leu
106     210                 215                 220
107 Pro Leu Met Asn Pro Lys Lys Val Ala Ser Trp Ile Glu Asp Lys Asp
108 225                 230                 235                 240
109 Asn Ile Leu Leu Tyr Gly Thr Asp Ile Glu Phe Ile Gly Tyr Arg Asp
110                 245                 250                 255
111 Ile Ala Gly Tyr Arg Met Ser Val Glu Gly Leu Leu Glu Val Ile Asp
112             260                 265                 270
```

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```
113 Glu Leu Asn Ser Glu Leu Cys Leu Pro Ser Glu Leu Lys His Ser Gly
114         275                 280                 285
115 Arg Glu Leu Tyr Leu Arg Thr Ser Ser Trp Ala Pro Asp Lys Ser Leu
116     290                 295                 300
117 Arg Ile Trp Arg Glu Asp Glu Gly Asn Ala Arg Leu Asn Met Leu Ser
118 305                 310                 315                 320
119 Tyr Asn Met Arg Gly Glu Leu Ala Phe Leu Ala Glu Asn Ser Asp Ala
120                 325                 330                 335
121 Arg Gly Trp Glu Pro Leu Pro Glu Arg Arg Leu Asp Ala Phe Arg Ala
122             340                 345                 350
123 Ile Tyr Asn Asp Trp Arg Gly Glu Asn Gly Glu Pro
124         355                 360
```

VERIFICATION SUMMARY
PATENT APPLICATION: **US/09/619,032A**

DATE: 04/02/2003
TIME: 12:07:45

Input Set : **A:\09010-004005.txt**
Output Set: **N:\CRF4\04022003\I619032A.raw**

L:12 M:270 C: Current Application Number differs, Replaced Current Application Number
L:13 M:271 C: Current Filing Date differs, Replaced Current Filing Date